

REMARKS

Claims 1-16 are pending and presently under consideration in the subject application. Claims 1, 10, and 14 have been amended to more particularly describe certain aspects of the invention. Claims 8 and 9 have been cancelled without prejudice or disclaimer. Claims 17-19 have been added to further describe the invention. Favorable reconsideration in light of the amendments, the new claims, and the remarks which follow is respectfully requested.

The Amendments

The independent claims have been amended to emphasize the detection and/or prediction functionality of the subject invention.

The Obviousness Rejections

Claims 1, 3, 8, 10, and 11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art in view of Ennis, et al. (U.S. 4,652,368) and Brinkmann (U.S. 4,852,385). Claims 2, 4, 9, 14, and 15 stand rejected under 35 U.S.C. § 103 (a) over the admitted prior art in view of Ennis, et al., Brinkmann, and further in view of Wiltrot (U.S. 4,029,114). Claims 5, 6, 7, 12, 13, and 16 stand rejected under 35 U.S.C. § 103(a) over the admitted prior art in view of Ennis, et al., Brinkmann, Wiltrot, and further in view of Buckler, et al. (U.S. 4,029,114). Withdrawal of these rejections is respectfully requested for at least the following reasons.

All of the claim rejections rely on Ennis, et al, however Ennis, et al. is not a citable reference as it is not analogous art. Prior art is analogous if (1) the art is from the same field of endeavor and (2) if the reference is not within the inventor's field of endeavor, the reference is reasonably pertinent to the particular problem with which the inventor is involved. See *In re Clay*, 966 F.2d 656, 658-59, 23 USPQ2D 1058 (Fed. Cir. 1992); *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313,315 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). The present invention relates to semiconductor packaging and in particular to a system and method for solder plating

lead frames (page 1, lines 6-7). Ennis, et al. relates to a water filtration system for an automatic car wash. Hence, Ennis, et al., is not in the same field of endeavor as the subject application. Further, the subject application describes a system and method for reducing the occurrence of poorly rinsed lead frames which can lead to corrosion or failure of solderability tests by utilizing a pressure sensor to monitor the wash fluid supply and trigger an alarm and/or stop the solder plating machine. Ennis, et al. discloses a system and method of utilizing two pressure gages positioned on opposite sides of a filter and sounding an alarm when the differential between the two gages indicates that the filter needs cleaning. Use of two gauges or sensors to detect when a car wash water filter needs to be cleaned is not reasonably pertinent to the problem of monitoring the rinsing of a lead frame. Accordingly, the rejection of claims 1-16 should be withdrawn at least because the primary reference is not analogous art from which an inventor can reasonably be presumed to have knowledge of considering the particular problem sought to be solved.

Moreover, there is not proper motivation to combine the cited references in the manner suggested by the Examiner and even if there were the subject invention as claimed does not result. To establish a *prima facie* case of obviousness, three basic criteria must be shown. First, there must be some suggestion or motivation, either in the cited art or in the knowledge generally available to one of ordinary skill in the art, to modify the cited art or to combine the cited art. Second, there must be a reasonable expectation of success. Finally, the cited art must teach or suggest all the claim features. See MPEP 706.02(j). The Examiner asserts that it would be obvious to combine the admitted prior art with Ennis, et al. and Brinkmann to produce the invention recited by claims 1, 3, 8, 10, and 11. Applicants' representative respectfully submits that a person of ordinary skill in the art of integrated circuit manufacturing seeking to reduce the occurrence of poorly rinsed lead frames would not be motivated to consult a reference dealing with a recirculating filtration system for reusing wash water in an automatic car wash environment. Furthermore, the nature and disclosure of all the references cited by the Examiner suggests the use of improper hindsight in which the applicants' teachings were used as a blue print to locate all the claim limitations. The Federal Circuit Court has consistently held that one cannot use

hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention. See *In re Fine*, 837 F.2d 1071, 5 USPQ2D 1596 (Fed Cir. 1988) (citations omitted). Additionally, the court has also recognized that

...‘***virtually all [inventions] are combinations of old elements.***’

Therefore, an Examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an Examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an ‘illogical and inappropriate process by which to determine patentability.’ *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2D 1453 (Fed. Cir. 1998) (citations omitted) (emphasis added).

In the present instance, it appears that the only suggestion for the Examiner’s combination of the isolated teachings from several distinct fields improperly stems from the applicants’ disclosure rather than the prior art. Evincing this conclusion is the fact that not a single cited reference is within the applicants’ field of endeavor, namely semiconductor packaging or more specifically to a system and method for solder plating lead frames (page 1, lines 6-7). Two references, Ennis, et al. and Wiltrot, are directed toward automatic car wash water filtration systems. Another reference, Brinkmann relates to maintenance device for cleaning and calibrating a probe used to interrogate a fluid medium. Finally, Buckler, et al. discloses an apparatus for use in coating cans or similar containers (col. 1, lines 15-16). The only common thread amongst these references is the use of a pressure gage or sensor. There is no reason why one of skill in the art of semiconductor packaging seeking to reduce the occurrence of poorly rinsed lead frames, absent improper hindsight, would consult the particular combination of references as suggested by the Examiner.

In any event, the admitted prior art, Ennis, et al., Brinkmann, Wiltrot, and Buckler, et al. alone or in combination fail to disclose, teach, or suggest, a plurality of

rules that detect and/or predict a problem with the wash fluid supply as recited by independent claims 1, 10, and 14. Rather, the cited art as a whole (if it was properly combinable) merely suggests triggering an alarm and shutting down a system based solely on a detected pressure value in relation to one or more predetermined or preset values. The disclosed systems and methods thus fail to appreciate the differences between particular machines and changes to machines resulting from use over time. Furthermore, the disclosed systems and methods fail to disclose, teach, or suggest employing rules in conjunction with one or more readings supplied by a pressure sensor to predict a problem with a wash fluid supply. Thus, claims 1, 10, and 14 are allowable. By virtue of their dependency, claims 2–7, 11–13, 15, and 16 contain all the limitations of the claims from which they depend (1, 10, and 14). Accordingly, claims 1–7, 10–13, and 14–16 are allowable in view of the cited references. Withdrawal of the rejection thereto is respectfully requested.

Still further yet, it should be noted that the subject matter contained in dependent claims 6, 13, and 16 provides a separate basis for allowance over and above those in independent claims 1, 10, and 14 from which they respectfully depend. Claims 6, 13, and 16 recite an expert system or utilization of an expert system. The Examiner asserts that Buckler, et al. provides an expert system. However, Buckler, et al. merely recites a digital control system which collects and compares data to preset pressure reference values. Expert systems utilize rules or algorithms and an inference engine to infer facts from known facts and incoming data (e.g., pressure data). Claims 6 and 13 utilizes an expert system to decide if and when to activate an alarm, while claim 16 utilizes an expert system to determine whether or not a solder plating machine should be shut down. The mere disclosure of a control system by Buckler, et al. does not disclose or teach an expert system or utilization of an expert system. Accordingly, claims 6, 13, and 16 are allowable and the rejection thereof should be withdrawn.

New Claims

Claims 17–19 have been newly added herein to emphasize various aspects of the present invention neither disclosed nor taught by the cited references. No new matter has been added. Accordingly, entry and allowance of new claims 17–19 is respectfully requested.

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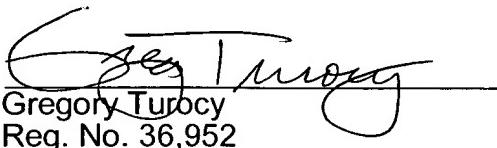
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The present invention is believed to be in condition for allowance in view of the comments and amendments supra. A prompt action to such end is earnestly solicited.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,
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